

WHAT IS CLAIMED IS:

1. A thin-film magnetic head comprising: a medium facing surface that faces toward a recording medium; a first magnetic layer and a second magnetic layer magnetically coupled to each other and including magnetic pole portions opposed to each other and placed in regions of the magnetic layers on a side of the medium facing surface, each of the magnetic layers including at least one layer; a gap layer provided between the pole portions of the first and second magnetic layers; and a thin-film coil at least a part of which is placed between the first and second magnetic layers, the at least part of the coil being insulated from the first and second magnetic layers, the coil including a first conductive layer and a second conductive layer connected to the first conductive layer, the first conductive layer being formed on a flat surface and having a first portion connected to the second conductive layer, and a second portion that is other than the first portion, the head further comprising:

an auxiliary layer disposed between the flat surface and the first portion of the first conductive layer, for making a distance between the flat surface and the first portion greater than a distance between the flat surface and the second portion of the first conductive layer; and

an insulating layer covering the second portion and having a first surface that touches the flat surface, and a second surface, opposite to the first surface, that touches the second conductive layer,

wherein the second surface is flattened so that the first portion is exposed adjacent to the second surface.

2. The thin-film magnetic head according to claim 1 wherein:  
one of the magnetic layers includes: a pole portion layer forming one of the pole portions and including at least one layer; and a yoke portion layer

forming a yoke portion; and

the auxiliary layer is made of a material the same as a material of which the at least one layer of the pole portion layer is made.

3. A thin-film coil element comprising:

a thin-film coil including a first conductive layer and a second conductive layer connected to the first conductive layer, the first conductive layer being formed on a flat surface and having a first portion connected to the second conductive layer, and a second portion that is other than the first portion;

an auxiliary layer disposed between the flat surface and the first portion of the first conductive layer, for making a distance between the flat surface and the first portion greater than a distance between the flat surface and the second portion of the first conductive layer; and

an insulating layer covering the second portion and having a first surface that touches the flat surface, and a second surface, opposite to the first surface, that touches the second conductive layer,

wherein the second surface is flattened so that the first portion is exposed adjacent to the second surface.

4. The thin-film coil element according to claim 3, further comprising a region defining layer provided for defining a region in which the first conductive layer is placed, the region defining layer including at least one layer, wherein

the auxiliary layer is made of a material the same as a material of which the at least one layer of the region defining layer is made.